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Notice of Allowability

Application No.

10/705,927

Applicant(s)

WU, HUNG-CHIH

Examiner

Crystal J. Barnes

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment received on 23 August 2005.
2. ☒ The allowed claim(s) is/are 1,5,7 and 9-11.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. The following is a Notice of Allowability in response to the Amendment received on 23 August 2005. Claims 1, 5, 7 and 9-11 have been amended. Claims 2-4, 6 and 8 have been cancelled. Claims 1, 5, 7 and 9-11 remain pending in this application.

REASONS FOR ALLOWANCE

2. Claims 1, 5, 7 and 9-11 are allowed.

3. The following is an examiner's statement of reasons for allowance:

As per claim 1, the prior art of record taken alone or in combination fails to teach the basic command executing module further includes a flag accumulating unit, which is coupled to the logic operation unit and, after the second group command is executed, changes a flag value in the flag accumulating unit.

As per claim 5, the prior art of record taken alone or in combination fails to teach the pulse output module comprises a speed-reduced pulse output module, which is coupled to the pulse output start module, starts when the start signal is a speed-reduced pulse output module start signal, and outputs a speed-reduced output pulse signal.

As per claim 7, the prior art of record taken alone or in combination fails to teach the interrupt module includes: a positive/negative edge setting flag, which records one of an up-rising edge interrupt and a lowering edge interrupt; a positive/negative edge detector, which is coupled to the start unit for receiving the start signal and outputs a positive/negative edge detection signal according to the positive/negative edge setting flag; an interrupt vector start buffer, which is coupled to the positive/negative edge detector for storing an interrupt vector state; and an interrupt state determiner, which uses the interrupt vector state and the output of an interrupt vector capture buffer to determine whether an up-rising edge interrupt or a lowering edge interrupt is detected.

As per claim 9, the prior art of record taken alone or in combination fails to teach the counting module includes: a counting comparison unit, which is coupled to the counter comparison value recording unit for comparing the counter comparison value and the counter current value to determine whether the former value (U value) or the latter value (D value) reaches a predetermined value and a U/D detecting unit, which is coupled to the counter current value recording unit for receiving the counter current value to determine whether the current counting number is the U value or the D value and outputs a detection result.

As per claim 10, the prior art of record taken alone or in combination fails to teach the second processing unit includes a comparison counting module.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Drawings

4. The amendment to the specification to add the reference number in the description was received on 23 August 2005. The drawings are acceptable.

Specification

5. The amendments to the specification were received on 23 August 2005. These corrections are acceptable.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art with respect to power conservation of programmable controllers in general:

USPN 6,158,012 to Watts, Jr.

USPN 5,996,084 to Watts

US Pub. No. 2005/0083902 A1 to Hashimoto

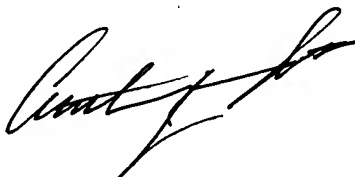
US Pub. No. 2004/0044916 A1 to Matsunaga

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Crystal J. Barnes whose telephone number is 571.272.3679. The examiner can normally be reached on Monday-Friday alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571.272.3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CJB
9 September 2005



Anthony Knight
Supervisory Patent Examiner
Group 3600